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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,353	12/21/2001	Hanan Z. Moller	Moller 1-12/066	8085

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EXAMINER

MATTHEW, AARON D

ART UNIT	PAPER NUMBER
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2114

DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/026,353

Applicant(s)

MOLLER ET AL.

Examiner

Aaron D Matthew

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/21/01.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/21/2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3.6.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Drawings

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show the following details, as described in the specification regarding Figure 1:

- A logical path through which “data entering block 12 at line 14 is directed into a data distribution block 16 which forwards the data into multiple selected paths”
- A control voltage line logically located between the controller 12 and the line cards 26 for carrying a bi-level control signal.

Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the

drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference character(s) mentioned in the description regarding Figure 1:

- Element 14 on line 18, page 3;
- Data select block 28 and output bus 30, on lines 2-3, page 4.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The abstract of the disclosure is objected to because the phrase, "aforementioned line cards," on line 8 creates confusion. There is no previous mention of a line card within the language of the abstract. Correction is required. See MPEP § 608.01(b).

Claim Objections

4. Claims 1-5 have been examined.
5. Claims 1-5 are objected to because of the following informalities:

Regarding claim 1, the mention of, "the redundant device," on line 4 is confusing, considering the knowledge of potential for multiple redundant devices in the system, as mentioned on lines 1-2 of claim 1. Examiner suggests using "a" in place of "the" in the above mentioned phrase on line 4.

Appropriate correction is required.
6. Claims 2-5 are objected to based on the objection to claim 1.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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7. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation "the at least one device" in line 1. There is insufficient antecedent basis for this limitation in the claim. Claim 1 mentions an "at least one redundant device" on line 1, and "at least the primary device" on lines 7-9. It is unclear as to which of these devices the phrase, "the at least one device," is referring.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bass, (U.S. 3,920,975), and further in view of Abdelnour et al, (U.S. 6,035,416).

Bass and Abdelnour et al are considered to be analogous art because they both teach improvements in network reliability using redundantly configured primary and backup devices. Furthermore, both references teach a method in which a primary

device is monitored remotely for faults, said method including a step in which the primary device is replaced with the backup device in response to a control signal from the remote monitoring device if a fault is detected.

Regarding claim 1, Bass discloses a fault tolerant system having a primary device, at least one redundant device and a remote controller, (note col. 3, lines 30-34), for monitoring the status of the devices and providing a control signal, (see col. 3, lines 38-40), to switch from the primary device to the redundant device upon detection of a failure in the primary device. Said system includes a method of determining validity of the control signal comprising:

- Continually sending a first signal having a predetermined varying characteristic, (see col. 8, lines 46-53), from the remote controller; and
- Sending a second signal having the predetermined varying characteristic from the remote controller upon detection of a failure of the primary device.

As shown on col. 10, lines 20-31, the control signals sent from the controller comprise a command digital word with preamble and address bits. The control signals are sent to a command decoder located in each terminal controller. The command decoder then routes the control bits to their intended destinations, (see col. 9, lines 7-11). Thus, a first control signal would be sent with address bits corresponding to the primary device, and a second control signal would be sent with address bits corresponding to the backup device. The command signal for

controlling which of the primary or backup devices is to be used is applied to a digital switch in the terminal controller, (see col. 9, lines 17-20).

Bass fails to teach that the control signals are sent directly to at least the primary device, and fails to teach that the first and second signals have different predetermined varying characteristics.

Abdelnour et al discloses a method in which a primary and backup device are both peripherally and self-monitored for a suspected fault condition, (see Abstract). Each device is provided with three inputs that determine whether or not the device should be active, (note col. 4, lines 5-17). Two of these inputs are configured to receive a signal with a predetermined varying characteristic arranged to convey which controller is to be active, (see col. 4, lines 40-42). Thus, Abdelnour et al discloses a method of determining validity of a control signal comprising continually sending a first signal having a predetermined varying characteristic to at least the primary device from a remote controller, (note col. 4, lines 12-14 in which controller B acts as a remote controller for controller A), and sending a second signal having a different varying characteristic to at least the primary device from a remote controller upon detection of a failure of the primary device, (note col. 4, lines 20-32).

As shown be Abdelnour et al, using a control signal with a predetermined varying characteristic arranged to convey binary information, (see again, col. 4, lines 40-42),

improves reliability in a fault tolerant system by facilitating the detection of a fault in a device when a steady-state control signal is detected, (note col. 5, lines 51-52, and col. 3, lines 37-40). One of ordinary skill in the art at the time of applicant's invention would have considered it obvious and advantageous to improve reliability in the fault tolerant system disclosed in Bass by using control signals of different predetermined varying characteristics to convey binary information. Moreover, one of ordinary skill in the art would clearly recognize that the switching logic and circuitry for the redundant devices could be located within the devices, as disclosed in Abdelnour et al, and would be advantageous in reducing the complexity in a system reliant on external switching circuitry.

Regarding claims 2-4, see col. 2, lines 18-23 in Abdelnour et al, which discloses that the varying characteristic taught by Abdelnour et al comprises a signal frequency that may be either pulsing or oscillating. One of ordinary skill in the art would clearly recognize that such signals comprise continuous wave frequencies and a selected number of signals per unit of time.

Regarding claim 5, note col. 9, lines 23-34 in Bass, which discloses a receiver associated with the at least one device that is responsive to the first signal for acknowledging receipt thereof to the remote controller.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron D Matthew whose telephone number is (703) 605-1211. The examiner can normally be reached on Mon-Fri, from 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert W Beausoliel can be reached on (703) 305-9713. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Aaron D Matthew
Examiner
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ADM

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SCOTT BADERMAN
PRIMARY EXAMINER